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THE PROPOSED UNOFFICIAL DINNER.

In our correspondence column will be found a welcome suggestion from Mr. Hunting, to which we need only refer briefly. The idea of replacing the official dinner of the R.C.V.S. by an unofficial one on the same date requires no commendation. All will hope that the dinner will be held, but good wishes are not sufficient; and we call particular attention to the proposal in order to emphasise one point.

Whether the dinner is held depends, of course, upon the support it receives from the profession, but that support, to be effective, must be given at once. It is impossible to arrange such a function at short notice. A room large enough for the purpose can scarcely be engaged while it is uncertain whether the dinner will take place at all, and may be impossible to obtain unless a decision is made early. It is essential, therefore, that all who desire to support the proposal should communicate with Mr. Hunting without delay.

POST-MORTEM OBSERVATION.

Recently a Danish investigator, from the results of numerous examinations, has stated that pathological conditions of the supra-renal bodies are more frequent than has been supposed. This is perfectly conceivable. Little as these bodies have hitherto figured in veterinary pathology, they are of great and increasing importance to the physiologists. Their influence upon the organims is undoubtedly profound, though yet but imperfectly understood. They are small in size, are very often —if not, indeed, usually—neglected in post-mortem examinations, and thus even fairly gross macroscopic lesions may be overlooked.

Again, disease of the supra renals would naturally be more or less obscure in its symptoms. The symptom of pigmentation, associated with one such disease in the human subject which has been recognised for more than half a century, is not exclusively diagnostic in man, and might not always be even perceptible in animals.

Other symptoms which might be expected in disease of the supra-renals would be by no means specially indicative. It is highly probable that a more systematic examination of the supra-renal bodies would throw fresh light upon pathology; it is at least possible that some indirect benefit might also accrue to physiology.

It may fairly be questioned whether veterinary surgeons in general fully utilise their opportunities of post-mortem observation. Those opportunities are common to all practitioners of veterinary science, and are immeasurably greater than those possessed by medical men. Yet many veterinary surgeons make a post-mortem examination but seldom, unless directly asked to do so by clients; and many chances of gaining valuable information are thus thrown away.

It is open to doubt, also, whether the ordinary veterinary post mortem examination is always sufficiently thorough. It is certain that the classical procedure of examining every organ in the body is seldom followed, and it cannot be said that this is always necessary to elucidate the cause of death; but it may be questioned whether many veterinary surgeons, on finding gross lesions in the organs which the previous symptoms have indicated, are not too apt to desist from further investigation. A more complete examination might frequently reveal unsuspected co-existing disease, and sometimes prove that the lesions provoking the main symptoms were only secondary in nature. Equally, if not more important, perhaps, such a systematic examination would preserve and increase the practitioner's familiarity with the appearance of normal tissues. No one—to take an extreme case—would examine the brain with a view to casting further light upon an ordinary twist of the intestine; but, unless cerebral symptoms have been present, the brain is very seldom examined at all. Nervous affections in animals are very imperfectly understood; and the veterinarian cannot be too familiar with the normal brain and spinal cord when he is required to pronounce upon abnormalities.

The knacker's yard affords opportunities for much continuous observation of particular subjects. One, for instance, is the colic due to verminous aneurisms. All admit the existence of such colic, but few have ever studied it closely. The only way of doing so is by searching the mesenteric vessels for aneurisms upon every opportunity, and the search should not be confined to horses that have died of colic.

There is still a good deal to be learned regarding this verminous colic—even its frequency being a moot point. A careful search of every horse for aneurisms—especially of those whose history was known—might be of great value. More than half the veterinary surgeons in practice might commence such a search at any moment, with the certainty of obtaining a practical result.

ANTHRAX IN INDIA.

The history of this outbreak may be taken as commencing at the case of a mule at Daigaon, Dec. 31, 1907. This mule (No. 328) left Aurangabad with the regiment on Dec. 29th, and was reported sick on the 30th, shewing a large circumscribed swelling on the near shoulder. The mucous membranes were injected and yellow, though no fever was observed. He was marched to Toka the following morning, where the swelling was observed to have spread up the neck to the throat, he showed symptoms of colic, and died suddenly in the evening. No post-mortem examination was made. The regiment did not leave the vicinity until January 5, 1908, and reached Imampur on the 7th, where mule No. R.A. 377 was observed with a swollen throat and showing symptoms of colic, he was destroyed by order of the L.G.C. 6th Division, as being a clinical case of anthrax. No post-mortem examination was made. The carcase and gear were burnt; saddlery, etc., being disinfected.

Lieut. Anderson proceeded to Imampur from Kirkee on January 8th, and was in veterinary charge up to February 22, during which time there were 36 cases occurring at short intervals. (*See case list*).

I can get no confirmed history of anthrax in the regiment during 1907, though there were a number of deaths from "fever," whose history would incline one to be dubious as to their diagnosis. For instance: Horse L.D. 951 was admitted with "fever" on March 28, died April 1, after showing severe colic. Horse B C. 988 admitted July 28 with fever, died August 5. Horse L.B. 1012 was admitted September 4 with catarrhal fever, died September 9, and some four others.

I regret I cannot obtain details of these cases, as at ordinary times there is no veterinary officer with a Silladar regiment, and the farrier-major has since left, and did not keep a record of cases.

In 1906 there is record of three clinical cases of anthrax in the Regimental Lines, two of which are said to have shown swellings on back and chest, similar to those seen in this outbreak.

I visited Imampur on January 13, and with Lieut. Anderson inspected 11 cases he had in isolation; these all showed local lesions in the form of a swelling, round, well defined from one to four inches diameter in places where the skin was tight such as on back and chest walls; diffuse, œdematous in the flank, neck, etc., where the skin was loose, they were hot and very tender; in the centre of each could be found a small quantity of dried exudate which led me to believe they were the seat of inoculation either by biting flies, thorns, etc. The regiment was encamped on soft black cotton soil, under mangoe trees, and the flies were in large numbers. We recommended that they should be moved to higher ground, and a free use of disinfectants; food stuffs to be examined, and carbolic acid to be freely used internally and externally. Line gear and saddlery to be disinfected. The hay, gram, and bran were supplied by the Supply and Transport Corps, and were the same as were supplied to the other troops in the Brigade.

I took an amount of the dried exudate for examination under the microscope, but failed to find the Bacillus anthracis. Lieut. Anderson took smears from time to time of the exudate, and blood from the lesions, but was unable to find the bacillus. It was not until Case 2 died that it was satisfactorily demonstrated. He took all precautions to prevent the spread of the disease, such as isolation of all suspected cases, segregation of "incontact" animals, disinfection of standings and gear, frequent change of camping ground, etc., yet cases occurred almost daily until February 10th when there was a period of fourteen days blank, when Lieut. Anderson was recalled, his services being urgently needed elsewhere. The regiment by this time had returned to their original station and were placed in camp outside the Regimental Lines.

After the departure of Lieut. A. C. Anderson the regiment moved into their permanent stables, and about four days afterwards the disease re-appeared and cases occurred at frequent intervals until it appeared to concentrate its efforts on the left half of D Squadron on 17th April.

Acting upon the orders of the Senior Veterinary Officer 6th Division I arrived at Aurangabad on 5th May and found 14 cases under treatment, all with a history and showing symptoms similar to the ones I saw at Imampur in January. The right and left halves of D squadron were already in camp. I advised the total evacuation of the Regimental horse lines. Temporary standings were built and the remaining troops were moved into them; the old lines were dismantled, roofs taken off, and floorings burnt over, and all entrances blocked with thorn fences. A general disinfection of line gear, saddlery, clothing, etc. was carried out by total emersion in sol. of hydrarg. perchlor. 1-500 for 10 minutes. The Regimental wells were abandoned and water drawn from H.H. the Nizam's supply pipes. The grass is a good Rumnah hay, taken off tracts of country on the hill tops and far away from any trade routes, no history of deaths among the stock on these Rumnahs could be found except some cases of rinderpest on a portion of "Deolai" last year, this section had not been touched by the Regiment for this harvesting. The bran was purchased from the Bombay Mills, was clean and of fair quality. The "channah" (Bengal grain) was purchased in the Punjab.

Samples of all food stuffs and water were sent to the S.V.O. for examination, but nothing suspicious was demonstrated.

As the horses were doing very little work a diet of bran and hay was advocated, the cases under treatment were placed in an "isolation" paddock, and a farrier and a naick (native corporal) with a permanent staff were detailed for duty here alone.

Inoculation was proposed either with Pasteur's vaccine or other available process and the Imperial bacteriologist was asked to send sufficient for D squadron.

I made enquiries through the Cantonment authorities and H.H. the Nizam's officials as to any

reported or suspected cases of anthrax in any district near here. The Subedar of Aurangabad was especially obliging in getting information from Government salutries and others in the surrounding districts, but no case of anthrax had been reported outside the camps and routes where the Regiment had trekked.

I was of opinion that there was a general infection of a district or camp, or that the Regimental lines which are very old were badly infected. I strongly suspected a district (Diagaon) some 16-20 miles out on the Ahmednagar Road, as it was here that the first case was noticed, and Case 72 halted here the night before coming into Aurangabad. The O.C. sent out a N.C.O. to glean what information he could, but heard of nothing suspicious in the district.

The Regimental lines were placed out of bounds for all troops, and the Regiment itself in quarantine.

The appearance of the cases led one to suspect that the mode of conveyance was either saddlery, grooming, kit, or flies etc., as there was a large number of flies about at this time. I made numerous experimental inoculations of guinea pigs, and sent a number to the Army Veterinary School, but only in case No. 72 did death occur and bacillus anthracis demonstrated; this, though it may not be of great importance, proves that flies are a factor to be reckoned with where such cases occur.

A point that strikes one in such outbreaks is the absence of "saddle rooms" in Silladar Regiments, the kit being kept in the Sowar's quarters, where they store all sorts of jharous, horse rubbers, old kits, bridles etc., thus rendering disinfection extremely difficult. I recommended that all the horse furniture etc., after trough disinfection, should be kept in a "saddle tent," while the squadrons were in camp. In support of this the following cases may be mentioned:

D squadron had been free from the disease for six weeks when a mule showed symptoms and was destroyed. This animal had been taken by a Bhisti into the old lines and his kit kept in the quarters.

Horse No. 386 admitted with local lesions at girth, kit had been kept in the sowars quarters after disinfection.

Horse No. 612, admitted with lesions off-side where the girth had rubbed; this was an old girth brought out by the sowar. Bacillus anthracis was demonstrated at the wound in this case.

Symptoms.

A description of a few of the cases will suffice, as cases appeared to follow much the same course.

Lieut. Anderson's report:

Horse No. 753, admitted 7th January with a temperature 104·4. This was originally a very severe case, temperature being very variable, and was highest on the 6th day, 105·8, from there the temperature rapidly fell to normal. It was accompanied with large swelling on near side of neck, extending to chest, there were also two carbuncles. Membranes injected, respirations at one time greatly increased, watery discharge from the eyes. This case made a good recovery and is now at light duty.

Case No. 4.—Horse No 440, admitted January 9th with a temperature 105·4 with small swellings at either side of bottom of neck, these rapidly increased in size, and two carbuncles appeared on near shoulder and near side; they were connected by what appeared to be inflamed lymphatic vessels. This horse had a variable temperature for eight days. Membranes injected and slight watery discharge from eyes. Eventually this case recovered and is now at duty.

Case No. 11.—Horse No. 744, admitted January 13th, and died 16th January; immediately before death temperature was normal. Colic very severe, large swellings at bottom of throat, bloody discharge from nostrils and anus, greatly increased respirations and injected membranes. Typical case of anthrax, and diagnosis confirmed by microscopic examination.

Lieutenant A. C. Anderson in his report of 15th February, 1908, says . . . . "lesions I described as carbuncular were present in the majority of cases as though they were the seat of inoculations. . . . . The carbuncular lesions were first noticed as a circular path with pairs upright, and after a day or so a very slight yellow exudate was thrown out, and the base became very hard and indurated. They usually formed a scab and fell off. I took smears from several carbuncles, but could not satisfactorily demonstrate the presence of anthrax bacilli."

Of the cases that occurred subsequent to my arrival the following are the most interesting:

Case No. 68.—Horse 639 L.D., admitted mid-day with a temperature 105, mucous membrane very injected, pulse accelerated. Respirations very laboured and short, a large diffuse swelling off-side of chest, hot and extremely tender, animal showed acute abdominal pain. Injected 3oz. of Ac. carbol. sol. 10 per cent. around swellings, and gave Ac. carbol., Ol. lini. Oj. Isolated the animal and segregated the "in-contact," gave antispasmodic and anodynes. The following morning showed no improvement, abdominal symptoms somewhat subsided, but general condition grave. Temperature at noon 101. Temperature at 4 p.m. 98·8; was destroyed *in extremis*. Microscopic examination of blood showed B. anthracis teeming. Inoculated a guinea-pig with a minute quantity of blood, death occurred at 26th hour. Post-mortem examination of same showed typical anthrax. Blood teeming with B. anthracis. I also inoculated a guinea-pig with flies collected off the carcase, but got no result.

Case 72.—Horse No. 887 L.B., admitted 12th May, died 14th May. This pony returned from Mahableshwar on the evening of the 10th, having marched along the route followed by the Regiment in December and February last from Diagaon, and was reported with fever bilious, of which he showed every symptom. Temperature 101·6, mucous membrane yellow, off feed, was isolated and treated for fever. The following morning the temperature was 102·6, mucous membranes very yellow and injected, no appetite, expression very dejected, a swelling near saddle about 2½ inch. diameter, diffuse and tender. Ordered carbolic fomentations to back, ac. carbol. and ol. lini. internally; evening temp. 103.

On the 13th the general condition was apparently unaltered; a.m. temperature 102; p.m. temperature 102·6; injected Sol, ac. carbol. into swelling. At 11 p.m. showed severe abdominal pain, temperature 104. Died 6 a.m. 14th May. Post-mortem examination, held with all precautions, showed spleen and liver greatly enlarged and engorged. Kidneys enlarged, and all serous membranes and fatty structure of a deep yellow colour. Left lung deeply congested. Microscopic examination of blood and spleen pulp showed innumerable B. anthracis. A guinea-pig inoculated with a minute amount of blood showed typical anthrax and died at 30th hour. Before the post-mortem examination was made a number of flies were collected off the carcase, which showed no visible wounds, and the natural orifices had been carefully plugged at death, and a triturate of these injected into a guinea-pig produced anthrax, and death in 42 hours. These were common house flies.

Case No. 78.—Horse No. L.D. 612, admitted 29th June, 1908, from morning parade with a swelling about the size of a closed fist, over an old scar under the girth on off-side, the edges of the scar were raw and inflamed, and showed a moist yellow exudate. Temperature 103·8, membranes icteric, general appearance dull, and feeding slowly. He was isolated at once, "in-contacts" segregated, litter burnt, and standings dug up and disinfected. Gave Ac. carbol. and ol. lini. internally. Hot carbolic fomentations to swellings, and gave hypodermic injection of 20 c.c. anti-anthrax serum; a little of the exudate was inoculated into a guinea-pig and smears were examined microscopically, but I could not satisfactorily demonstrate the bacilli. Other smears were sent to Major Martin and the Principal Army Veterinary School, Poona, who found a few B. anthracis very scattered in the field.

June 30th. General appearance was better, though the local lesion was larger. Temperature: a.m. 102·4, p.m. 103·2. Injected 30 c.c. serum.

July 1st. The condition was much improved, but the girth swelling was increasing in size; injected 5oz. of a 10 per cent. aqueous carbol. sol. around the lesion. This greatly increased during the day, but had markedly subsided the following morning when 20 c.c. serum was injected subcutaneously. All symptoms had subsided on the 7th July, and the case made an excellent recovery. The guinea-pig inoculated with the exudate died at the 48th hour, showing typical anthrax; blood, spleen, and liver were teeming with B. anthracis.

I made smears from blood from the lesion, and of serum drawn from the interior of the swelling through a fine canula, but could find no bacilli. Guinea-pigs were inoculated with both these without result.

On the 6th day of the disease the scar again showed a faint serous exudate, but microscopic examination and inoculation showed nothing of B. anthracis. This is the only case in which I have been able to use the anti-anthrax serum during the course of the disease, as I was on other duty when cases No. 75, 76, and 77 occurred. I should like to give it a further trial. The case was photographed before the injection of ac. carbol. on July 1st.

The initial symptoms in all cases were very much like bilious fever, which is very common on this station, and it was with a view to an early confirmation of anthrax that experiments by inoculation of guinea-pigs were carried out, and I think that if the exudate can be collected shortly after it exudes, better results might be obtained. This is very difficult, as during the late very hot weather it dried very quickly, and the seats of inoculation are not observed until the enlargement occurs some time after the infection.

I have made careful periodic examination of the exudate, and blood from the local lesions, of cases personally observed, but with exception of the foregoing have failed to demonstrate the bacillus.

All the local lesions of the cases that came under my observation were as described. I was unfortunate in not having any "carbuncles," as described by Lieut. A. C. Anderson. This I ascribe to the method of infection in the later cases being through abrasions or wounds. It will be noticed that in the majority of cases the systemic disturbance was not great. In the more severe cases where abdominal pain was shown death generally was the result.

Treatment.—Immediately the case was isolated all rugs, grooming kit, stable gear, Syces clothes, and saddlery were disinfected by immersion in 1-500 sol. of hydrarg. perchlor, the animal was dieted on bran mashes, with 2oz. mag. sulph. night and morning, a drench of Ac. carbol ʒiv., Ol. lini. Oj. twice daily, and carbolised fomentation to lesion, around which was injected 4-5oz. of 10 per cent. aqueous carbolic solution. I preferred the solution to the pure acid, as upon my arrival I found three cases showing circular patches of necrosed tissue where the pure acid had been injected some time previously. This generally produced enormous swellings, but they subsided usually in two or three days. In cases of excessive hyperæmia febrifuges were used, and hypodermic injections of morphia etc. were used when colic was shown. The temperatures were carefully taken twice daily and any disturbances recorded.

Precautions.—Any cases of fever and localised swellings were immediately reported and animal isolated until beyond suspicion; the "in-contacts," *e.g.* the animal on either side, were segregated at least 400 yards from other animals.

When the case was pronounced, the affected one was removed to the "Isolation Camp," and the troop, or half-squadron, taken out of the lines to camp on fresh ground at least one mile away, the standings of the infected and incontact animals were dug up and removed, the litter burnt over them, and dressed with lime and Ac. carbolic, and left exposed to the sun. After each case the whole of the stable gear and saddlery of the troop was disinfected with 1-500 sol. Hydrarg. perchlor; this was found to do next to no harm to the gear, as the steel work was cleaned at once, and all leather work soaped and dressed as soon as dry enough. The squadron was then moved on to fresh camping ground.

This constant moving and disinfection caused a great deal of inconvenience to the regiment, but it

RECORD OF INOCULATION OF HORSES OF R.A. SQUADRON, 1ST JULY, 1908.

Dose: 20 c.c. Anti-Anthrax Serum.

No.	Horse No.	Temp. at time of inoc. 9 a.m.	Temp. at 12th hour.	Size of swelling.	Temp. at 24th hour.	Size of swelling.	Temp. at 36th hour.	Remarks.
1	493	100	100	7×4	100	7×5	100·4	7×4
2	753	99	101·2	6×4	100	7×6	100·2	9×6
3	776	99·6	100·	6×2	100	9×8	100·	8×4
4	774	100	99	3×3	99	4×3	100·	4×3
5	567	99·2	100·	5×2	100·	9×6	100·2	
6	431	100	99·4	2×2	99	5×5	100·	
7	747	99·4	100·4	3×2	100·	9×7	100·4	
8	784	99.6	100·	5×3	100·	6×6	100·4	
9	965	99·2	100·2		99·		99·4	
10	489	99·6	100·4	10×6	100·	5×5	100·2	
11	461	99·8	100·	5×3	100·	10×5	100·2	
12	214	99·4	100·		99	4×4	100·4	
13	989	99·4	100·	3×3	100·	4×4	100	
14	1016	99·6	100·2	5×5	100·	5×5	100	
15	197	99·2	100·2	5×5	100·	8×8	100	7×7
16	435	99·8	100·2	6×6	100·2	15×6	100·6	5×5
17	868	100	100·2	6×6	100	10×7	100·	6×4
18	211	99·2	100·2	6×4	100·2	11×9	100·6	10×6
19	41	100	100	6×6	100·2	6×4	100	Both hind and off-fore swollen
20	440	99·2	100·	2×2	100·	8×3	100·2	

TABULAR RETURN OF INOCULATIONS WITH ANTI-ANTHRAX SERUM.

34TH POONA HORSE.

Squadron	Horses.	Mules.	Date of inoculation.	No. of deaths.	Date of Death.	Remarks.
R.D.	56	30	21/5/08	2	Mule No. 346, 13/6/08 Horse „ 751, 15 „	Showed clinical symptoms 11/6/08. Destroyed „ „ „ 13/6/08. Destroyed
L.D.	42	32	22 „	1	„ „ 386, 22 „	„ „ „ 17/6/08. Destroyed
R.B.	3	2	25 „			Horse No. L.D. 612 showed symptoms 29/6/08. Cured 27/7/08
L.D.	10		25 „			
R.A.	1		25 „			
R.B.	1		25 „			
L.B.	1		25 „			
D.	19	1	25 „			
R.B.	71	34	26/6/08	1	Horse No. 638, 27/6/08	Colic, probably due to exposure during the re-action after inoculation. Carcase burnt before a p.m. could be made.
L.B.	71	37	26 „			
R.A.	71	31	1/7/08			
L.A.	73	34	2 „			
R.C.	77	36	3 „			
L.C.	73	39	5 „	1	Horse No. 730, 6/7/08	Pneumonia, probably caused by exposure during the re-action. P.M.: Pneumonia
	569	276			Deaths 5 (from anthrax 3, other causes 2.)	
	845					

Aurangabad
17th August, 1908.

W. CECIL LOWE,
Captain, A.V. Corps.

ANTHRAX CASES. 34TH POONA HORSE.

Case No.	Squadron.	Horse No.	Station or Camp.	Date of Admission.	Result.	Date of Discharge.	Remarks.
				1908.		1908.	
1a	R.B.	Mule 328	On march	30-12-07	Died	1-1	Not confirmed
1	R.A.	„ 377	Imampore	7-1	Destroyed	8-1	Two days from Toka.
2	R.B.	Horse	„	8-1	Cured	22-1	
3	R.A.	„ 753	„	9-1	„	25-1	
4	R.A.	„ 440	„	9-1	„	25-1	
5	R.D.	„ 225	„	11-1	„	25-1	
6	Lt. Hildebrand		„	11-1	„	21-1	
7	L.A.	Horse 562	„	11-1	„	24-1	
8	L.D.	„ 151	„	11-1	Died	16-1	P.M. Exam.: Anthrax.
9	L.D.	„ 63	„	11-1	Cured	24-1	Move ground.
10	L.D.	„ 959	„	12-1	„	25-1	
11	R.D.	„ 744	„	13-1	Died	16-1	P.M. Exam: Anthrax.
12	R.C.	„ 177	„	13-1	Destroyed	18-1	
13	R.A.	„ 164	Nagar, 2 mile	14-1	„	18-1	
14	R.A.	„ 553	„	14-1	„	16-1	Move 1500 yards.
15	L.D.	„ 678	„	17-1	„	18-1	
16	L.C.	„ 618	„	17-1	Cured	25-1	Bhisti Bagh.
17	L.C.	„ 611	„	21-1	Destroyed	25-1	
18	R.C.	„ 762	„	22-1	Cured	1-2	
19	R.D.	„ 707	„	22-1	Destroyed	25-1	
20	R.C.	„ 480	„	23-1	Cured	1-2	
21	R.B.	„ 866	„	23-1	„	1-2	
22	R.B.	„ 174	„	23-1	Destroyed	26-1	
23	L.D.	„ 161	„	23-1	Died	25-1	P.M. Exam: Anthrax.
24	R.C.	„ 789	„	24-1	Destroyed	24-1	
25	R.B.	„ 722	Nagar	26-1	„	27-1	Destroyed at Meri.
26	L.A.	„ 604	„	26-1	„	28-1	„ „
27	L.D.	„ 1532	„	26-1	„	29-1	„ „
28	R.D.	„ 83	„	26-1	„	28-1	Destroyed at Shaigaon.
29	L.D.	„ 929	„	26-1	„	29-1	„ „
30	R.C.	„ 902	„	26-1	Cured	3-2	
31	R.A.	„ 828	„	26-1	„	7-2	
32	R.D.	Pony 254	Shaigaon	28-1	„	7-2	
33	L.D.	Horse 851	Birkan	30-1	„	3-2	
34	R.D.	„ 881	„	31-1	„	4-2	
35	R.D.	„ 756	Aurangabad	6-2	„	18-2	
36	R.D.	Mule 77	„	10-2	Destroyed	11-2	
37	L.A.	Horse 376	„	24-2	„	26-2	In Old Lines.
38	L.D.	„ 1043	„	26-2	Cured	15-3	Removed in Sick Lines.
39	R.B.	„ 999	„	6-3	Died	9-3	P.M. Exam: Anthrax.
40	R.C.	„ 1030	„	13-3	Destroyed	13-3	In old Lines.
41	R.B.	„ 770	„	19-3	„	22-3	„
42	R.B.	„ 958	„	25-3	Cured	15-4	„
43	R.B.	„ 836	„	30-3	„	15-4	„
44	Lt. Raymond, L.A. Squad.		„	3-4	Destroyed	3-4	„
45	R.A.	Horse 1041	„	9-4	„	10-4	„
46	R.A.	„ 536	„	9-4	Cured		„
47	L.D.	„ 109	„	14-4	„	7-6	„ (*Chart*)
48	R.A.	„ 447	„	15-4	Destroyed	18-4	„
49	L.D.	„ 337	„	17-4	Cured	7-6	„
50	L.D.	„ 854	„	23-4	Destroyed	24-4	„

Case No.	Squadron.	Horse No.	Station or Camp.	Date of Admission.	Result.	Date of Discharge.	Remarks.
				1908.		1908.	
51	L.D.	Horse 534	Aurangabad	25-4	Destroyed	1-5	In old Lines.
52	L.D.	„ 892	„	27-4	Cured	7-6	„ (*Chart*)
53	L.D.	„ 148	„	27-4	„	7-6	„
54	L.D.	„ 799	„	27-4	Destroyed	28-4	L.D. Squadron in Camp, half-mile E. of Line.
55	L.D.	„ 574	Camp	27-4	Cured	7-6	
56	L.D.	„ 654	„	29-4	„	25-6	Move ground.
57	L.D.	„ 758	„	29-4	„	7-6	
58	L.D.	„ 535	„	29-4	„	7-6	L.D. moved 600 yards S.E.
59	R.D.	„ 259	In Lines	29-4	Destroyed	29-4	
60	R.D.	„ 545	„	30-4	„	3-5	
61	L.D.	„ 628	Camp	1-5	„	8-5	
62	L.D.	„ 845	„	1-5	Cured	7-6	
63	L.D.	„ 807	„	1-5	Destroyed	3-5	
64	L.D.	„ 1025	„	2-5	„	2-5	
65	R.D.	„ 852	„	2-5	Cured	25-6	R.D. went to camp near L.D.
66	R D.	Mule 75	In old Lines	2-5	„	7-6	
67	R.D.	„ 481	Camp	2-5	„	7-6	
68	L.D.	Horse 639	„	5-5	Destroyed	6-5	M.E.: Anthrax.
69	L.D.	„ 280	„	6-5	Cured	25-6	L.D. moved one mile S.E.
70	R.B.	„ 754	Lines	10-5	„	26-5	R.B. moved 4 miles S.E. lines:
71	L.B.	„ 351	„	13-5	„	26-5	
72	L.B.	„ 887	Camp	13-5	Died	14-5	From Mahablesbwar, last camp Diagaon.
73	R.D.	„ 795	„	15-5	Cured	26-6	
74	R.D.	„ 646	„	16-5	„	26-6	
75	R.D.	Mule 346	Lines chupp	11-6	Destroyed	12-6	Had been in old lines. M.E.: Anthrax.
76	R.D.	Horse 757	Temporary Lines	13-6	„	15-6	M.E.: Anthrax.
77	L.D.	„ 386	Camp	17-6	„	22-6	M.E.: *nil.*
78	L.D.	„ 612	„	29-6	Cured	7-7	

was willingly undertaken, and I think the results have justified it.

A remarkable point in this outbreak is the immunity that the oxen, camels, goats, etc., have enjoyed throughout. I am given to understand that oxen at Muktesar have proved immune to inoculated anthrax.

Inoculation against the Disease.

The serum used was prepared by the Imperial Bacteriologist on the Sclavo principle, the dose being 20 c.c. injected subcutaneously; in practically all cases there were small swellings at the seat of inoculation, probably due to the Ac. carbolic in the serum; these disappeared in about 48 hours, a small number of cases showed urticaria if exposed to the sun; there was also a rise of temperature of 1 to 2°. A record of inoculations was kept; I attach that of twenty horses as a specimen.

"D" Squadron was inoculated on the 21st and 22nd May, 1908, with no untoward effect, and was brought into the new standings (Chuppa); the disease recurred on the 11th June, since then there have been five other cases, the last one dated Dec., 1908. All recovered. Of the other squadrons only two casualties occurred, and this I put down to exposure during the reaction, the weather being everything one would wish to avoid during such an operation, the Monsoon having begun.

In my opinion the serum was of some little use, inasmuch as it allowed of a more thorough disinfection and move of camping grounds, during the period of immunity, short though this was. The utility of a "passive" immunity such as is given by the use of serum alone is naturally less than an "active" immunity granted by simultaneous inoculations or vaccines, though the risks of the latter methods are greater, but in outbreaks such as this would it not be advisable to run such risks, especially as in the later stage when the disease appeared to be confined to one squadron.

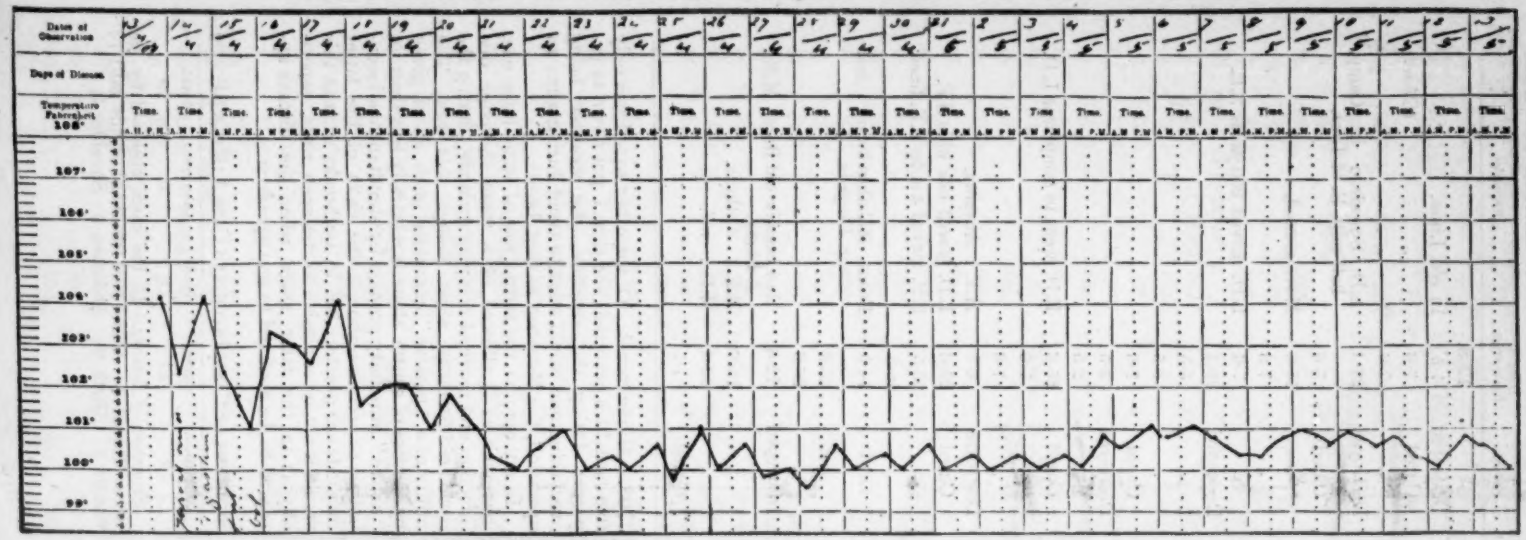
Summary of Cases Including Case A (Mule RB. 328)

Admission.	Cured.	Died.	Destroyed.	Total.
79	40	6	33	79

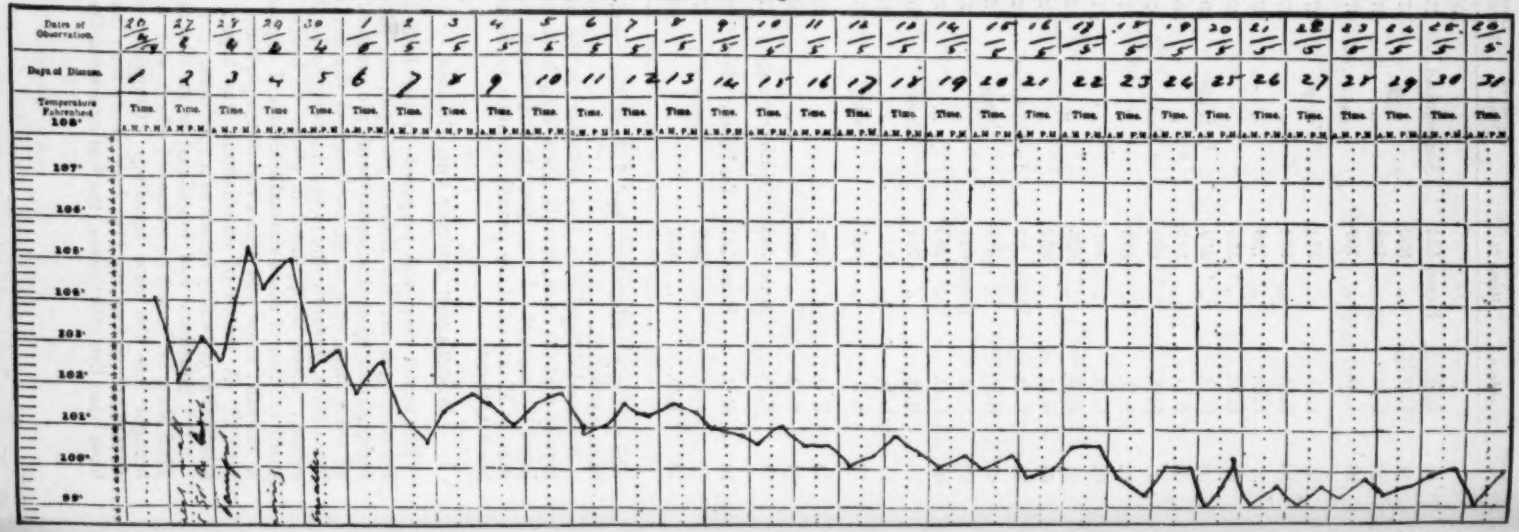
Situation of Lesions.—In the cases observed by me were: Throat 4: Chest wall (scabbard or rifle gall) 7: Saddle 6: Girth 6: Abdomen 5: Shoulder 3.

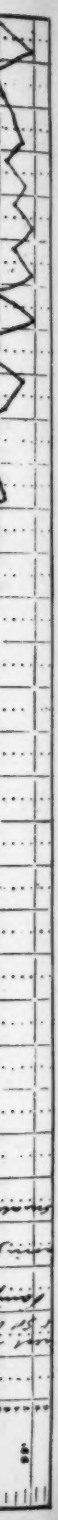
UMI

Horse, No. L.D. 109 (34th Poona Horse): Station—Aurangabad: Anthrax: Date 13-4-1908: Cured 7-6-1908.



Horse, No. L.D. 892 (34th Poona Horse): Station—Aurangabad: Anthrax: Date 26-4-1908: Cured 7-6-1908.





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UMI

Horse No. 887. Large swelling near loin.

Horse No. L.D. 612. Swelling behind point of elbow extending up one-third of chest, and along abdomen.

ANTHRAX IN INDIA.

To illustrate notes by Capt. W. Cecil Lowe, A.V.C.

NATURALLY DIGESTED FOOD FOR YOUNG PUPPIES.

The following may be of interest to those connected with dogs.

An Irish terrier bitch about six weeks after whelping had very little milk for her pups. As they worried her a good deal she was taken away from them at night. After being fed in the morning the bitch was returned. When she had been with them about fifteen minutes she daily vomited her morning's feed in a semi-digested state, which the pups readily ate. Occasionally she did the same in the evening. At first I tried to prevent them from eating it, thinking the bitch had swallowed something which had disagreed with her, but observing from her manner and the way in which she attracted the pups round her, and the voluntary bringing up of the ingesta, I had no doubt that she did it for their benefit. They apparently got accustomed to and expected this feed, and played about her mouth till she fed them. The process might well be compared to a pigeon feeding her young.

As I had to go away for about a week I took the bitch with me, and during that time I never noticed her vomit, but on returning home she again continued the same process for a few days.

One of the largest dog breeders in Northern Indian informs me that he has observed the same weaning process in a Scottie bitch which invariably did likewise with each litter.

I think this case is of interest, as it points to the natural instinct shown by the mother to gradually prepare the digestive organs of the young for the solid food which they get later on, and which often causes considerable trouble and loss during the period of weaning.

V. de V. H. Woodley, I.C.V.D.

Rawalpindi, Punjab.

UNTOWARD RESULT OF A HYPODERMIC INJECTION OF STRYCHNINE.

Under the above heading in your issue of the 3rd April, Mr. L. L. Steele chronicles a very interesting case, and after perusing same it brought back to memory a somewhat similar experience I encountered in a horse some time ago.

The subject, a bay saddle gelding, I was called upon to attend late one evening, and on examination of the patient came to the conclusion that he was suffering from impaction.

Although only slightly pained a good dose of Chloral hydrate was given, and a ʒvij. aloetic ball administered.

On examination next morning, pulse, although rather weak, was regular, and about 50; complete absence of borborygmus, and from this I concluded that paralysis of the bowels had to be overcome and that the best agent for this purpose would be strychnine.

Under the skin of the neck I injected ʒij. Injectio strychninæ hypodermica (gr. i. of strychnine, according to the label). Whilst doing this two men held him; within five minutes he became very restless, with profuse salivation, and a third man was requisitioned whilst I prepared a sedative drench.

Before I got the drench ready, however, he had broken loose from those holding him, and in trying to catch him again he rushed the box door and got clear away into the yard, where he coursed round several times until he collapsed, the powerful muscular spasms being very marked; death occurring within a very short period.

There was no doubt as to the immediate cause of death, although on post-mortem a diaphragmatic hernia was found. Was the dose too large? or was it due to either of the two causes advanced by Mr. Steele?

Since then I have always preferred to give Liquor strych. orally, and I am pleased to say with no such dramatic results.

Duncan MacLeod, M.R.C.V.S.

Glasgow.

ABSTRACTS FROM FOREIGN JOURNALS.

Gastro-Intestinal Strongylosis of Sheep.

This affection has committed great ravages in Algeria during the summer of last year. It is caused by the *Strongylus contortus*, which lives in the abomasum, and the *Strongylus filicollis*, which is a parasite of the small intestine. The usual symptoms are debility, great thirst, pica, loss of appetite, colicky pains, diarrhœa (which is sometimes sanguinolent), emaciation, and anæmia. An œdema of the sub-maxillary space is often seen. Animals having feeble resisting powers die cachectic; stronger ones recover.

Upon post-mortem examination, quantities of stronygles are found in the abomasum, the mucous membrane of which is thickened and pale. Sometimes, but rarely, the mucous membrane is sanguinolent. The intestine is only slightly inflamed, even when it contains worms. An exudate into the serous cavities and the subcutaneous connective tissue is nearly always found.

Infection is brought about by drinking stagnant contaminated water. The malady is especially intense about the end of summer and in the autumn. The mortality is very high.

A pure water supply is important from a prophylactic point of view. Isolation of the patients, and burning the viscera of infected cadavers, are also recommended. The nourishment should be fortifying. Sea salt appears to impede the evolution of the strongyles.

As curative treatment, Caze (*Rev. Gén. de Méd. Vét.*) employs the following mixture:

Oil of Cade	50 parts.
Oil of Turpentine	50 „
Alcohol (90 p.c.)	15 „

He administers a soup ladle full of this in the morning, and has been able to save seven or eight animals in ten, when the treatment was commenced in the early stages of the malady.—*Annales de Méd. Vét.*

[It is not stated for how long a time this mixture was given. Oil of Cade is certainly not generally used as an anthelmintic, and some practitioners in England may give it a trial, as the more usual agents have not been found very successful in gastro-intestinal strongylosis of ruminants.—Trans.]

Croupo-Diptheritic Inflammation of the Nasal Mucous Membrane as a Sequence of Parenchymatous Mastitis in a Cow.

In a cow affected with parenchymatous mastitis, constitutional disturbance and indigestion set in, and very soon became considerable.

Conjunctivitis and rhinitis became associated with this. The mucous membrane of the mouth was abnormally warm and hyperæmic. The lower parts of the nasal mucous membrane showed very acute diffuse reddening and swelling, with a yellowish-grey, croupo-diphtheritis, stinking fibrinous deposit. In the right nostril were several blood-coagula the size of small peas, with ulcers beneath them. The vaginal mucous membrane was not altered. Later in the illness, great difficulty of respiration set in.

The treatment was purely symptomatic. The condition improved after the discharge of some necrosed mucous membrane from the nose, and the cow recovered completely after some days.

Wyssmann, who records the case (*Schweizer Archiv für Tierheilkunde*) considers that, notwithstanding the great similarity of the symptoms to those of malignant catarrhal fever, the affection should be regarded as sequential to the inflammation of the udder.—*Berliner Tier. Wochenschrift.*

Conjunctivitis Diphtherica.

Beuge (*Zeitschr. f. Veterinärk.*) records a case of catarrh of the conjunctiva of one eye in a gelding. The symptoms shown were lachrymation, great photophobia, muco-purulent discharge, and swelling and glueing together of the lids, the opening of which revealed redness and swelling of the conjunctiva. In the middle of the edge of the lower lid were four elevations of a size up to that of a hempseed, two being dark red, and two more yellowish in appearance. Three similar elevations were present on the edge of the upper eyelid. In the conjunctiva, besides numerous white points of similar form, cavities the size of a pin's head were seen. On the outer skin also, especially at the inner angle of the eye, small yellowish-white nodules, and cavities which appeared as if excavated with a punch, were present.

The case was treated with a two per cent. solution of nitrate of silver, and the severe symptoms, which were probably infectious in origin, subsided in ten days.—*Berliner Tier. Woch.*

The Pathology of the Supra-renal Glands.

Fölger, of Copenhagen, has made an extensive study of the pathological anatomy of the supra-renal glands, which has hitherto received little attention in veterinary literature. He concludes that the importance of these glands is not yet fully realised in pathology, and that a careful examination of them, in autopsies in which the origin of disease is problematic—especially if the illness has been marked by loss of vital power, convulsions, disturbances of digestion, or perhaps by anomalies of pigmentation—might clear up many obscure questions.

Metastases, suppurative inflammation of the supra-renal glands, and (in cows) tuberculosis, are among the conditions described by Fölger. Tumours of these bodies are apparently commoner than has hitherto been supposed. In 300 horses Fölger found 46 such tumours, these being chiefly in old horses. The most important of these tumours are hyper-nephroma, melano-sarcoma, and capillary teleangeiectasis, or vascular tumour consisting of enlarged and dilated blood vessels. It is of interest, though not of pathological importance, to find that, according to Fölger, free-lying accessory supra-renal glands are not rare in the horse. They are to be sought for in the fat around the kidneys, and in the neighbourhood of the spermatic vein.—*Berliner Tier. Woch.*

W. R. C.

REVIEW.

The Food Inspectors' Handbook. — By Francis Vacher, M.O.H. for Cheshire. Fifth Edition. Price 7s. 6d. net. The Sanitary Publishing Company, Ltd., Fetter Lane, E.C.

This book of just over 250 pages is a useful guide and work of reference for all who have to do with food inspection. It is not a prolix text-book, but each subject is treated concisely, and the information given is sufficient and reliable.

The section on Statutory Powers is a condensed summary of various Public Health Acts and special Acts relating to such foods as bread, margarine, butter etc., and the regulations of the Local Government Board under these Acts.

Then follow chapters on animals, carcases, and butchers' meat; the diseases of animals which render meat unfit for human food. Next we have chapters on poultry and game; fish; fruit and vegetables; corn, bread, and flour; milk; starches, cheese, lard and eggs; tea, coffee, cocoa, sugar; condiments and spices.

The author writes lucidly, and tempers his official knowledge with commonsense.

There are 74 illustrations and a coloured plate of bovine tuberculosis. Possibly all the details of the diseases of animals would not obtain the approval of veterinarians, but there are no errors of much practical importance, and there is so much useful information that we can recommend the book not only to municipal veterinary inspectors but to practitioners generally who desire to increase their knowledge of sound and unsound foods.

DISEASES OF ANIMALS ACTS 1894 TO 1903. SUMMARY OF RETURNS.

Period.		Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Rabies. Cases Confirmed.		Sheep Scab.	Swine Fever.	
		Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Dogs.	Other	Out-breaks	Out-breaks.	Slaugh-tered *
GT. BRITAIN. Week ended April 24		31	31			21	53			10	46	308
Corresponding week in	1908 ..	20	22			16	62			7	43	393
	1907 ..	36	65			21	38			8	57	269
	1906 ..	14	70			25	36			1	47	307
Total for 17 weeks, 1909		487	675			219	845			410	515	4772
Corresponding period in	1908 ..	409	570	3	112	268	932			606	555	2921
	1907 ..	370	509			314	712			376	675	3471
	1906 ..	332	519			367	683			267	361	1808
Board of Agriculture and Fisheries, April 27, 1909.								Parasitic Mange. Outbreaks.				
IRELAND. Week ended April 17		..	..	..	..	..	..	1		5	..	14
Corresponding Week in	1908 ..	..	..	..	..	..	..	2		4	1	26
	1907 ..	..	..	..	..	..	..	2		7	6	74
	1906 ..	..	..	..	..	..	..	2		2	4	19
Total for 16 weeks, 1909		2	2	..	..	..	..	35		251	10	94
Corresponding period in	1908 ..	3	6	..	..	..	..	17		236	49	1128
	1907 ..	1	3	..	..	..	..	39		145	48	811
	1906 ..	2	2	..	..	2	7	32		125	18	238

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, April 21, 1909

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

Medical Expert Evidence.

Medical men, when summoned before courts of law, may appear as ordinary witnesses, to state facts within their own knowledge, or as skilled witnesses to interpret them. In the former position their testimony differs in nothing from that of other persons, and is subject to the same rules of admissibility and interpretation. Their profession imparts no additional value to their testimony in such cases, for it is clear that they simply testify to those matters to which any equally intelligent layman might testify. In these cases their testimony is restricted to matters of personal knowledge alone, and their opinions become inadmissible. It is well to understand this at the outset, and the medical man, before going into the witness-box, should make certain in what capacity he is called. Both capacities are to a certain extent often united in him, but as a general rule it is not usual to call an expert to prove what an ordinary witness can, nor would he be allowed to if no reason of a scientific character existed to justify it.

But, on the other hand, when he takes his place as an expert before a court, a legal paradox is instituted in his behalf, by which he is allowed to testify not to what he knows, but to what he believes or forms an opinion upon, based necessarily on probabilities of analogy as well as experience. His testimony becomes a generalisation of facts, by means of which he undertakes to explain certain phenomena, or particular instances, as deductions from a law of common authority and government over such facts. He first generalises, and then abstracts, and his opinion expresses the degree of agreement between a general law and the particular subject of its authority.

In view of the immense erudition required to make a skilled witness in medicine, it follows that the high and responsible position occupied by the medical expert before courts of justice renders it indispensably necessary for him to possess the greatest measure of proficiency in those matters about which he is called to testify. And though he need not be a schoolman, nor skilled like a lawyer in dialectics and rhetorical fencing, he should at least be able to distinguish between the real and the apparent in those physical phenomena specially appertaining to that human nature of which he is the accredited minister and interpreter. Much of that wrangling over the taking of skilled testimony before courts, which constitutes the opprobrium of so many trials, may be attributed to a want of precision and candour in putting questions, and the consequent inability of witnesses to answer them clearly. There being always an *arrière pensée* to every question put by counsel, while the expert is confined to direct answers, his manner, whether brief and outspoken or halting and ambiguous, is ever liable to be misintepreted, according as it approximates to or departs from the point intended to be reached by his examiner.

There is on this account among medical men a great sensitiveness and reluctance about appearing before courts, for, besides being at times roughly handled in a cross-examination upon professional subjects by those of a different calling, their opinions are often disregarded by the jury, who pronounce a verdict directly antagonistic to the current of their testimony. To be summoned to express an opinion in a case, and yet not have that opinion form part of the purport of the judgment, seems to many little short of an insult. But this view involves an entire misapprehension of the duties and

scope of testimony of an expert. He should understand at the outset that he is not called to express an opinion upon the merits of the case; that he has no proper concern in the issue, and by whichever party called he is in no wise the witness, much less the advocate, of that side. His testimony is invoked, in almost an impersonal sense, to explain the relations of cause and effect in certain physical facts that are in evidence before the court, and which relations, being unintelligible to the jury, require professional explanation at his hands in order that due weight may be given to the facts out of which they arise. His duties are properly limited to gauging the value of certain facts as they appear in evidence—facts whose importance to the issue cannot be determined without his assistance. But an opinion upon the relations of facts is not an opinion upon the truth of those facts. It is for him to decide the former; it is for the jury to decide the latter. For him to pronounce an opinion either upon the truth of the facts given him for interpretation, or upon the merits of the case, would be to usurp the province of the jury, and thus incorporate in his own person the functions of court, advocate, and witness. The witness cannot in strictness be asked his opinion respecting the very point which the jury are to determine. For instance, if the question be whether a particular act for which a prisoner is tried were an act of insanity, a medical man conversant with that disease, who knows nothing of the prisoner, but has simply heard the trial, cannot be broadly asked his opinion as to the state of the prisoner's mind at the time of the alleged crime, because such a question involves the determination of the truth of the facts deposed to, as well as the scientific inference from those facts. Yet he may be asked what judgment he can form on the subject, assuming the facts stated in evidence to be true. It is, therefore, from no desire to diminish either the importance or the value of medical testimony that courts are compelled to adopt such rules. And that they are wisely conceived must be apparent to all who will pause to inquire what would be the effect of allowing experts to usurp power which they might be tempted to use for the benefit solely of the party calling them.

In the examination of experts it often happens that neither counsel nor witness understand one another, each using terms of various signification, according to the import most usually given them by either profession. This necessarily produces ambiguity and confusion, a condition not undesired by him who seeks to make the worse appear the better reason, but always to be reprobated in a court of justice, where truth rather than victory should be sought after. For these reasons the testimony of experts, constituting a most responsible branch of the law of evidence, since it is something higher than a mere oral recitation of facts, being an opinion *ex cathedra* upon the value of such facts, and thus quasi-judicial, is jealously criticised to see that it is tainted by no bias towards either party. Under a distorted phraseology the witness might easily be made to appear prejudiced, or an undue emphasis placed upon a statement of subordinate consequence might elevate it into the sphere of a dogmatic assertion. Interpreting an idea as expressed through language, or construing that language technically and etymologically, instead of in its usual and customary senses, may occasion wide differences of mutual comprehension, so that, in fact, throughout the whole examination of an expert, more even than in the case of an ordinary witness, the doctrines of liberal rather than close construction should be applied.

Opinions in general are not evidence, for they are plain and palpable violations of the germinal principle of all evidence, which is personal knowledge directly acquired. They are, then, either something more or something less. The Roman law, it would seem, speaking of physicians when called as experts, evidently considered them more in the light of a day when juries were unknown, and the practitioner could easily merge his opinion in that of the expert, thus, in fact, converting the witness into the court itself (Maynz, "Elemens de Droit Romain," vol. i., p. 348). Such a substitution as this was never contemplated at common law, where the provinces of judge, juror, and witness are strictly prescribed and most jealously guarded, and where any encroachment on the part of either would invalidate the judgment, or at least render it amenable to revision.

The opinion rendered by the expert witness should involve so much of special knowledge as to exclude it from the sphere of ordinary testimony, since, if it passes within it, the essential pre-requisite element of skill is thereby destroyed, and the expert changes into an ordinary witness. And therefore no party is entitled to ask the opinion of a professional witness upon any question except one of skill or science. The more the ground of expert testimony can be narrowed and circumscribed, the easier it will be to obtain from its assistance intelligible and satisfactory results; while, on the other hand, the looser the system exhibited in introducing it before courts and permitting counsel to stretch it *ad infinitum*, the more confusing and useless it becomes, even if, through astute perversion, it does not work harm to both causes of science and justice.—*The Hospital.*

The Frank Wragg Memorial Fund.

A meeting of the subscribers to the Frank Wragg Memorial Fund was held at 10 Red Lion Square on Friday, April 16th, when there were present Mr. James F. Simpson in the chair, Messrs. Banham, Butters, Hunting, Hurndall, McI. McCall, Mulvey, Shave, Shipley, and Thatcher.

Letters and telegrams of apology for absence were read from Messrs. Faulkner, W. A. Taylor, F. W. Garnett, R. C. Trigger, H. and T. Lepper, East, Gooch, R. Hughes, Bower, and Professor Wooldridge.

The minutes of the last meeting of the Committee having been read and confirmed, the Hon. Secretary and Treasurer presented the following report:

"In accordance with the wishes of the Committee, as expressed at its last meeting, the Chairman and Hon. Secretary drew up a circular letter which was posted to all members of the Committee on October 22nd last.

The professional papers were also good enough to insert notices of the proceedings of our last meeting, and to announce the opening of this fund and the object in view.

On December 12th a type written circular was posted to such members of the Committee as had not contributed to the fund, asking for their subscriptions.

The Veterinary Record and *The Veterinary News* have on three occasions published lists of subscribers, and have also published letters from your Chairman and Hon. Secretary appealing for funds, *The Veterinary Journal* has also very kindly helped us.

The amount subscribed up to date is £126 3s. In forwarding their subscriptions by letter, many gentlemen have expressed their great regard for the late Mr. Frank Wragg and their appreciation of the good work he had done for the profession. The Chairman of this Committee has very kindly communicated with the officials of our veterinary medical associations with the result that we have received very generous support from several of them."

It was then proposed by Mr. Shipley, and seconded by Mr. Thatcher "that a memorial be placed in the Council room of the Royal College of Veterinary Surgeons and that the balance of the Fund be handed to the widow of the late Mr. Wragg."

The motion on being put to the meeting was carried unanimously.

The latter part of this resolution was arrived at after the subscribers present had been informed of the financial position of Mrs. Wragg.

Mr. SHIPLEY proposed, and Mr. Thatcher seconded, that the memorial take the form of a brass tablet to be placed on the walls of the Council Chamber.

Mr. HUNTING proposed as an amendment that the memorial should take the form of a bust portrait in oils of the late Mr. Wragg, the expense to be limited to fifty guineas.

On being put to the meeting Mr. Hunting's amendment was carried.

It was also resolved that Mr. Hunting, the Chairman, and the Hon. Sec. be empowered to collect the material necessary for the portrait and to put the work in hand.

The meeting concluded with a vote of thanks to the Chairman.

SIDNEY VILLAR, Hon. Sec. & Treas.

The Virus of Horse Sickness.

Sir David Bruce and Captain H. R. Bateman publish in the *Journal of the Royal Army Medical Corps* their experiments made with a view to determining whether trypanosomes have an ultra microscopical stage in which they are capable of passing through a Berkefeld filter. It is known that the undiscovered virus of South African horse sickness can do this, and it has been reported by Plimmer, Moore, Breinl, and MacNeal that Trypanosoma gambiense and T. lewisi in culture can do the same. As a result of a series of experiments on five rabbits and eleven white rats, they find that the serum of similar animals infected with nagana is not pathogenic after passage through a Berkefeld filter. Further, the filtered blood of rats suffering from nagana and surra, which have been treated with antimony until all trypanosomes have disappeared from their blood and tissues, is similarly non-infective. The same holds good of Trypanosoma lewisi cultured on blood agar. It is therefore concluded that there is no stage in the development of trypanosomes in which they are small enough to pass through the pores or an ordinary Berkefeld filter. The filters used were of the ordinary pattern, and they were proved, before use with the infected sera, to be capable of stopping the passage of Micrococcus melitensis (Malta fever.)

The Action of Purgatives.

Observations on the effect of drugs on the digestive tract by means of the X-rays continue to accumulate. It will be remembered that the passage of the food is made visible by mixing bismuth with it. Dr. R. Magnus has in this way studied the specific action of infusions of senna leaves and of castor oil. He finds that the infusion of senna leaves has no influence upon the movements of the stomach or small intestine, but as soon as the food reaches the large intestine the purgative effect is apparent. The increased peristalsis is found to be the same in dogs after the spinal cord has been destroyed from the eleventh dorsal segment, from which it is argued that the drug does not act through the nervous system, but directly upon the wall of the intestine. On the other hand, castor oil increases the peristalsis of the whole of the intestinal tract as well as the stomach. The oily factor of the purgative is said partly to counterbalance this effect on the stomach, but when the active principle of the oil, the ricinolic acid, is administered pure, the increase in peristalsis of the stomach is clearly demonstrated. The action is most pronounced in the small intestine. On the other hand, the large intestine is only slightly affected, and it is only under the pressure of the material from the small intestine that the large intestine eventually evacuates its contents.—*The Hospital.*

Diseased Meat.—Butcher Fined £20 and Costs in Newcastle.

At the Newcastle Police Court, on Friday, April 23, before Mr. Arthur Scholfield and Alderman G. Harkus, a butcher named William Bell and his brother, Joseph Bell, were summoned on a charge of having had in their possession for sale seven pieces of diseased meat on March 10. Mr. H. Lee prosecuted on behalf of the Corporation; and Mr. Edward Clark defended.

At the outset of the proceedings, Mr. Clark said William Bell took the entire responsibility, as it was his business. The other defendant was his brother, and was employed by him, but only had to carry the meat from the slaughter-house to the shop.

Mr. Lee, for the prosecution, said this appeared to be a deliberate attempt on the part of the defendant, Wm. Bell, who carried on business as a butcher in Sceptre Street, to pass off upon the public some meat which was very badly diseased with tuberculosis. On March 10 Mr. Parker, the veterinary officer of the Corporation, visited Mr. Bell's shop to examine meat there in the usual way, and he noticed that two hindquarters of meat were hanging in the shop in an unusual way. Usually the fronts were open to view, but in this case the fronts were turned towards the wall. Mr. Parker examined the fronts of the two hind quarters, and found distinct evidence of tuberculosis, and also that the membranes or skin—it was on the membranes that the tuberculosis or visible signs were always most extensive—had been stripped. He also saw one or two other pieces of meat in the shop from the same carcase, and on one of these, a neck piece, there was an inflamed gland. In one of the two cellars Mr. Parker saw the defendant, Joseph Bell, cutting up meat with a mincing machine. In the other cellar Mr. Parker happened to see a button in the wall which made him suspect there was a recess there. On sounding the place he discovered it was hollow, and removing a table he gained admission to a cupboard in which he found various other parts belonging to the diseased animal, including the udder, the liver, and the skirt, and a number of scraps. The liver and the skirt, valuable portions of the carcase, were covered with tubercular material. The defendant William told Mr. Parker that Joseph killed and dressed the beast the day before, and that the rest of the meat had been sold. The two fore-quarters were not found, neither were the lights nor the lungs. The meat seized was condemned after Dr. Armstrong, the Medical Officer of Health, had seen it.

Mr. Parker was called and gave evidence in support of Mr. Lee's statement. Witness cautioned and questioned the defendant William. Witness asked him if he sold his meat to poor people, and he replied that he had several poor customers, who bought meat for 6d a pound and were not particular what they got so long as they got plenty of it, as they would not buy first-class English beef.

Cross-examined by Mr. Clark, witness said the meat he found diseased consisted of two hind-quarters, heart, liver, a neck, skirt, and from 50 to 150 pieces which he found on a bench. Four lots were found in the shop, and the remainder was in the cellar.

Further questioned, Mr. Parker said he had been twice previously at Mr. Bell's premises and had no complaints to make as to what he saw or found.

Mr. Lee said that the charge was in respect of seven pieces. Had they charged Bell in respect of all the pieces found he would have rendered himself liable to penalties amounting to fully £1000.

Mr. Clark said he had witnesses whom he might have called under certain circumstances, but it would not affect the case; nor did the question as to whether his client had scientific knowledge of the disease enter into

the case after the evidence they had heard. All he could urge before the Bench was that Mr. Bell had paid for the animal, which came from Hawick, the ordinary market price—at the rate of 8s. a stone. He killed it and he believed everything to be good. There was the fact that there was no previous complaint against the defendant, William, who had for forty years carried on business in the city as a butcher.

The Chairman, after the Bench had deliberated, said the case was a very serious one, and it was only because of William Bell's past record as a butcher in Newcastle that the Bench had decided to impose a fine. For what he had done he could be sent to prison. He would be fined the maximum penalty of £20 and costs; and the case against the brother would be dismissed on the payment of costs.

Mr. Lee remarked that the penalty could be enforced in respect of every diseased piece of meat found.

The Clerk (Mr. Roberts) said the penalty imposed was meant to cover everything.—*The Evening Chronicle* (Newcastle-on-Tyne).

"An Apology for Cannibalism."

A somewhat amusing, and certainly suggestive, article is contributed by Dr. P. Carnot to *Le Progrès Médical*, in which he seeks to show that the barbarous custom of living on one's fellow creatures is at least physiologically correct. Quite recently Busquet has studied the nutritive effect of feeding frogs with the flesh of other frogs, as compared with frogs fed on veal or mutton. He finds that the frogs fed thus in a cannibalistic fashion show a greater increase in weight in a given time than the control frogs fed on veal and mutton, although they actually received a smaller proportion of proteid. Moreover, this result accords with many other well-known physiological facts. In regard to sera, for instance, there is a great difference in their assimilation and toxicity according as the serum injected is derived from an animal of the same species or of a different species. Dr. Carnot has himself experimented with skin-grafts. If a piece of black skin from a parti-coloured animal be grafted on to a white skin the development of the black graft can be easily watched. The author finds that if the graft is from the animal itself it develops and proliferates much more rapidly than if it is from another animal, even of the same species; and grafting between animals of the same litter is more successful than between animals of different litters, and they may fail altogether between animals of different species even though nearly related. It appears, therefore, that there is a very definite specificity in the animal tissues, and whether it be tissues grafted, or sera injected, or nutriment absorbed, the adaptation is the more or less perfect according as the tissue, serum, or nutriment is derived from the organism itself or from an organism of the same species or of a different species.

Immunity-producing Substances.

Spengler, of Davos, has a theory that the source of immunity producing substances in tuberculosis is the red blood cells, the leucocytes acting as secondary storing stations only. Under his auspices a therapeutic preparation (J.K.) has been made, which contains not only the immune substances of tuberculosis, but also those of the pyogenic organisms, thus fulfilling for phthisis the indication often advanced that secondary septic infections should be attacked as well as the primary tuberculous one. Two reports on this preparation are now to hand. Szaboky (*Orvosi Hetilap* No. 28) has found that cases treated by this means alone do not do so well as those undergoing the usual hygienic regimen. He thinks, however, that Spengler's inoculation might prove a useful adjuvant. Torday's (*Budapesti Orvosi Ujság* No. 30) cases made no clinical progress that could be reckoned at all exceptional. These two reports rather bear out Pottenger's dictum, that in tuberculosis any treatment not actually harmful will show good results at first.—*The Hospital.*

Election of Council R.C.V.S.

The following is a list of nominations to date. The last day for receipt of nominations is May 12, and the voting papers should be issued in usual course about a week later:

	Proposed by
Barker, Kenneth, Gloucester.	J. A. W. Dollar, G. H. Williams.
Carter, J. H., Burnley.	S. Locke, A. Munro.
Huston, R. T., Armagh.	J. A. W. Dollar, G. H. Williams.
McCall, J. McI, London.	J. F. Simpson, W. O. Williams.
McKinna, J, Huddersfield.	H. G. Bowes, J. Clarkson.
Mulvey, W. J., Chelsea.	Sir J. M'Fadyean, W. O. Williams.
Shave, E. S., London.	J. Macqueen.
Shipley, W., Gt. Yarmouth.	Sir J. M'Fadyean, J. F. Simpson.
Slocock, S. H., Hounslow.	J. F. Simpson, H. Sumner.
Storrar, D. M., Abergavenny.	J. A. W. Dollar, G. H. Williams.
Williams, W. Owen, Liverpool.	J. McCall, E. Faulkner.
Wiltshire, S., Upton-on-Severn.	J. A. W. Dollar, G. H. Williams.

Action of the Rontgen Rays.

Although the therapeutic value of the Röntgen rays and other radiations of a similar nature is now beyond question for quite a number and variety of affections, the mechanism underlying the curative process is by no means clearly demonstrated. The earliest applications of the *x*-rays were made on malignant growths, and the diminution in size of the growths under the influence of the radiations led to the supposition that the rays exercised a special destructive effect upon the cells of the growth. This necrosing action of the rays was also manifested on healthy tissue when the dose administered was beyond a certain strength. Moreover, histological examination of tumours so treated have shown the cancer cells in process of destruction, with changes in their form and structure, and have confirmed radiologists in this view. In a very interesting and suggestive contribution to the *Journal de Médecine*, Dr. L. Raoult-Deslongechamps suggests that the curative property of *x*-rays lies in their power to excite leucocytosis. Histological examination of animal tissues after exposure to the rays have shown, according to this author, a definite leucocytic infiltration, and the abundant secretions from open tumours after treatment with the rays have been found to contain large quantities of leucocytes He points out that the good results obtained in leukæmia, adenopathies, varicose ulcers, chronic eczemas, etc., find a more easy explanation on this hypothesis than on the ground of a specific destructive effect of the rays.—*The Hospital.*

Cattle Disease in America.

Washington, April 21.

I am informed by the Department of Agriculture that Secretary Wilson is satisfied that foot-and-mouth disease is now completely eradicated throughout the United States, and that he has ordered all quarantine upon cattle to be raised on April 24.—*The Times.*

Personal.

WILLIAMS—WATERS.—At St. Mary's, Usk, on April 27, by licence, Capt. A. J. Williams, A.V.C., eldest son of John Williams, M.R.C.V.S., of Pontypool, to Florence Edith Elizabeth, only daughter of the late Mr. E. W. Waters, and Mrs. Waters, of Usk, Mon. No cards.

OBITUARY.

FRANK WILLIAM LEIGH, F.R.C.V.S., Westbury-on-Trym
Graduated, Lond: Jan. 1885.

Mr. Frank Leigh, one of the best known veterinary surgeons in the West of England, was found dead at one of his surgeries, College Place, St. Augustine's, Bristol, on Friday, April 23. He was well-known in the public life of the city, having served as Councillor at Bristol, and as Captain of the North Somerset Yeomanry. Though a comparatively young man, he had an extensive practice. At the last meeting of the Sanitary Congress held in Bristol Mr. Leigh acted as Chairman of the Veterinary Section and did his work remarkably well, pleasing everyone with his urbanity and business-like conduct.

The inquest was held on Saturday afternoon at the residence of the deceased, Cheriton, Eastfield Road, Westbury-on-Trym.

The Deputy-Coroner (Mr. A. E. Barker), before opening the inquiry, said he thought it would be fitting to express their sense of deep regret at what had happened. Mr. Frank Leigh had lived all his life there, and gentlemen sitting on that jury had known him since he was a little boy. He had always been an excellent neighbour, a kind friend, and valuable citizen, and as neighbours and citizens they could but express their deep regret and sympathy with the relatives who had suffered such a heavy loss.

The jury concurred with the remarks of the Coroner.

Charles Edward Heaton, of 19 Henleaze Road, stated that Mr. Leigh was his brother-in-law, and was 46 years of age. He last saw him alive at 11 p.m. on Thursday at Cheriton, and he then seemed very well and cheerful. Mr. Leigh had been out of health for some time. There had latterly been no cause for anxiety as to his mental condition. He was away for some time in the summer, and was considered to have benefitted by the change. Witness had never known him express any suicidal intention.

Edward Mayo, of the Chequers, Lower College Street, Bristol, stated that he was in the employ of the deceased at his surgery, St. George's Road, St. Augustine's. Mr. Leigh arrived at the surgery at 11.30 on Friday morning appearing all right and cheerful. He then went to Clifton, and arrived back about 12.35. He left again, but was back at 2 o'clock. On going to the stables at 2.45 witness found Mr. Leigh lying on the floor, with his face downwards. A doctor and policeman were summoned. Drugs were kept in the surgery, but the bottle found on the floor did not belong to the surgery.

P.C. Oscar James Hussell, 96 C., stated that at 2.50 p.m. he was called by the last witness to the surgery, and found Mr. Leigh lying face downward. He appeared to be dead. In the sink, about five yards away, was a glass containing a little odorous water. A bottle containing a little prussic acid was found in the dung-pit about ten yards away. The smell of it was similar to that of the fluid in the glass.

Dr. George Alexander Gloag, of 7, College Green, said he was asked about three o'clock to go to Mr. Leigh's surgery, and found him lying dead near the stable. There were contused wounds on the face, evidently caused by the fall. It was a strong form of prussic acid which the bottle had contained, and was probably used for poisoning animals. The action of the drug was very sudden, as it paralysed the circulation and respiration, and might kill in a few seconds. The inference he was obliged to draw was that, acting on some sudden impulse, deceased had taken poison. He must have fallen with a crash on the floor of the stable.

The Coroner having summed up,

The foreman of the jury (Mr. Peter Forrest) said he had known deceased from his youth, and he thought everyone present would agree that he was a thorough parishioner, a thorough friend, and a man whom they would miss very much. They would not easily forget his cheery face. He thought there was only one conclusion they could arrive at, viz., that he met his death by taking prussic acid while temporarily insane.

The rest of the jury were of the same opinion, and a verdict to that effect was returned.

Mr. Heaton said he would like on behalf of Mrs. Leigh to thank the Coroner and jury for their kind expressions of sympathy. If anything could comfort Mrs. Leigh it was that she had the sympathy of so many of Mr. Leigh's old friends.

The Coroner: Mrs. Leigh can be assured of that. There was not a more popular man in the district.

ROBERT DUNCAN DOVE, M.R.C.V.S., Inspector, Vet. Branch Dept. of Agric., Ireland. Glas: July, 1884.

Mr. Dove died at Donnybrook, Dublin, on April 26th, from colitis following influenza. His age was 45 years.

CORRESPONDENCE.

THE VETERINARY SURGEONS' AMENDMENT BILL.

Sir,

In common, I presume, with other veterinary surgeons practising abroad, I have received a circular signed on behalf of a Committee formed to oppose the Veterinary Surgeons Act (1881) Amendment Bill, asking my support for seven gentlemen who are nominated in opposition to the retiring Members of the Council.

It may be that in framing the original Bill the Council was too optimistic, and did not take into sufficient consideration the influence of agriculturists and others whose financial interests were affected by the clause which prohibited practice by unqualified persons. As far as I remember the Bill was originally supported by men now strongly opposed to it, and who evidently were then of opinion that the yearly guinea would be more than replaced by extra fees from increased practice; as there is now no prospect of direct pecuniary benefit from the Bill they are using every effort against it. It is selfishness of this kind in small matters, so characteristic of a large number of our members, which causes the veterinary profession to lag behind in the race for social and political influence. In boasting of our advances during the past half century we are too apt to forget the great advances which have been made by other professions, and consequently to neglect opportunities of obtaining as a body corporate that position of weight and standing which we must confess is at the present time lamentably wanting.

The new Bill is the most important step in professional progress made since the passage of the Veterinary Surgeons Act of 1881, and though through a combination of unfavourable circumstances it has been considerably weakened, it is still capable of conferring great benefits upon the profession at large at a very small cost to individual members. As one who was in country practice in England for ten years, I know full well the hard work and inadequate returns resulting from this branch of our work, and the many difficulties with which members so engaged have to contend; but the Bill is an effort to raise the standard of

the profession, and therefore a means by which some of these difficulties would ultimately be overcome.

"High failure far o'erleaps the bounds of low successes."

And if our Council has for the present failed in attaining all that it attempted for the general benefit it still deserves well of the profession, which will not, I am sure, be guilty of the base ingratitude of rejecting its retiring members at the forthcoming election. The gentlemen who wish to replace them, however estimable they may be personally, have brought forward no proposition beyond the practical maintenance of the present position, which we must all feel to be highly unsatisfactory. To delegate to posterity work which has already been too long delayed is an easy way of shirking responsibility, but it is not a method which will commend itself to those of us who have at heart the welfare and progress of veterinary science.—I am, sir, yours very truly,

J. A. ROBINSON.

King Williams Town, Cape Colony,
March 31st.

Sir,

If it had been possible to get any clear idea from the last meeting of the members of the Council of the Royal College of Veterinary Surgeons of what has been removed from the "V.S. Amendment Bill" and what may be still left, I would not have troubled you with this letter, but it has got such a pulling about, and deservedly so, that I, along with many others, are anxious to know what it is now like, and whether or not it is to be proceeded with without the members of the profession either seeing it in its altered shape, or indeed having any voice in what in my opinion is to all intents and purposes their special affair. It cannot be said that it is the same Bill which was before the profession at the election of Council in 1908, and since then, so far as the outside members of the profession have been able to learn, some important changes have taken place. The Registration fee of a guinea annually has been dropped, and consequently the absurd penal clause for non-payment.

The guinea payment appeared in another form, however, but less objectionable. It ran a narrow escape at the last meeting of Council, when it was only carried with the casting vote of the Chairman. Is it any wonder then that members such as myself are anxious to know what the Bill is now like. Indeed when one reads the remarks upon the "V.S. Amendment Bill" in the Agricultural Journals throughout the country, I am bound to say that one cannot, even with an effort, feel proud of their profession. I will give you one quotation from an agricultural journal which I read three days ago: "The Royal College of Veterinary Surgeons continue to provide a deal of amusement for the nation. Do the members of the Council really suppose they are enhancing the reputation of their profession by present ongoings." When you add to the above that the Highland and Agricultural Society are resolved that "The right to prosecute any man for performing minor operations on live stock shall be, *not in the hands of the Royal College of Veterinary Surgeons*, but of the Board of Agriculture and Fisheries," one naturally asks, what is the profession likely to get out of the present Bill for their guinea a year? It would seem to be very little. Only the registered practitioner who never obtained a diploma or went through any qualifying course, to be placed on the same level as the man who studied the prescribed course and complied with all the requirements of the R.C.V.S., and if the two kinds are in practice in the same district it will be rather *nice* for the *qualified man*. I must confess I do not like the move of the H. and A. Society. Is it not time the members of the Council of the R.C.V.S. did some sensible work. Withdraw the present Bill, consult the profession, and bring forward a Bill that will under legitimate control, provide money for the reasonable purposes of the profession and also for its benefit. Is it not time the members of the profession looked into their own interests, and dealt with them, instead of simply looking on.—I am, yours etc.,

A. J. MCINTOSH.

Dumfries, April 20.

THE ANNUAL DINNER.

Sir,

The Council of the R.C.V.S. has decided not to hold an annual dinner this year, and doubtless it is right, because it has no funds available for guests or other expenses.

But the poverty (temporary let us hope) of the Corporate Body is not a positive bar to a dinner. If sufficient members desire to meet socially once a year and to perpetuate a function which has been active for over half a century there is no difficulty in organising a meeting. Many members of Council who voted against a dinner would attend if the matter were privately arranged, and many country friends would be glad to meet in cheerful circumstances.

This year, when veterinary politics have forced men to take somewhat antagonistic views, is not a time to lose any opportunity of showing that we may all agree to differ and yet unite socially. This year, too, our meeting does not clash with Derby Day, and so no counter-attraction exists.

If any gentlemen who agree that the dinner is worth preserving will send me a post-card, and even 50 reply favourably, we shall have a social meeting on the evening of June 2.—Yours truly,

WILLIAM HUNTING.

5 Halkin Place, S.W.

VETERINARY INSPECTION BY M.O.H. OR INSPECTOR OF NUISANCES.

Sir,

The following notice is from *The South Wales Weekly Argus*, and I should like to draw attention to the entire absence of all mention of a veterinary surgeon, although the duties include "inspection of cattle." What knowledge of cattle is possessed by M.O.H. or Inspectors of Nuisances? This sort of thing is unfair to stockowners and a deception of the public, who imagine they are being protected.—Yours truly,

V.S.

REGULATIONS

MADE BY THE URBAN DISTRICT COUNCIL OF LLANFRECHFA UPPER WITH RESPECT TO DAIRIES, COWSHEDS, AND MILKSHOPS IN THE URBAN DISTRICT OF LLANFRECHFA UPPER.

INTERPRETATION.

1. Throughout these regulations the expression "The Council" means the Urban District Council of Llanfrechfa Upper, the expression "the District" means the Urban District of Llanfrechfa Upper, the expression "Cowshed" includes any dairy in which milking cows may be kept, and, the expression "Cowkeeper" means any person following the trade of a cowkeeper or dairyman who is, or is required to be, registered under the Dairies, Cowsheds, and Milkshops Order of 1885.

FOR THE INSPECTION OF CATTLE IN DAIRIES.

2. Every occupier of a dairy wherein any cattle may be kept, and which the Medical Officer of Health, or the Inspector of Nuisances, or any other officer of the Council specially authorised by them in that behalf, may visit for the purpose of inspecting cattle, and every person for the time being having the care or control of any such dairy, or of any cattle therein, shall afford such Medical Officer of Health, Inspector of Nuisances, or officer, all reasonable assistance that may, for the purpose of the inspection, be required by him.

COMMUNICATIONS AND PAPERS RECEIVED.—Messrs. F. C. Hobbs, V. de V. H. Woodley, D. McLeod, W. R. Jermyn, W. J. Young, J. S. Lloyd.

South Wales Weekly Argus, *The Surrey Advertiser*, *The Evening Chronicle* (Newcastle-on-Tyne), *Bristol Evening News*, *Th Scotsman*.